

Notice of Allowability

Application No.

10/693,075

Examiner

Helen Rossoshek

Applicant(s)

SATAPATHY ET AL.

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 03/01/2006.
2. ☒ The allowed claim(s) is/are 1-26. Renumbered (37 CFR 1.126).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☒ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 5/4/06, 5/11/06.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

1. This office action is in response to the Application 10/693,075 filed 10/23/2003 and amendment filed 03/01/2006.

2. Claims 1-26 remain pending in the Application.

3. Applicant's arguments, with respect to the rejection of claims 1-26 under 35 USC § 102(e) have been fully considered and they are persuasive. Examiner finds them persuasive.

EXAMINER'S AMENDMENT

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

5. Authorization for this examiner's amendment was given in a telephone interview with Stephen Sullivan (Registration No. 38,329) on 05/04/2006 and 05/11/2006.

6. The application has been amended as follows:

To claims

Claim 1 line 5 after "with the" delete original" insert --reference--

Claim 6 line 4 after "second" delete "instance" insert --net--

Claim 9 line 3 after "top-net" delete "is"

Claim 10 line 3 after "layout is" insert --the--

Claim 11 line 4 after "by" delete "," insert --:--

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Claim 11 line 5 after "in the" insert –first and second--

Claim 11 line 7 after "comparing the" insert --second--

Claim 11 line 7 after "with the" insert –first--

Claim 12 line 3 after "generating an" insert –Engineering Change Order (--

Claim 12 line 3 after "ECO" insert --)--

Claim 12 line 4 delete "reference" insert –first--

Claim 12 line 4 after "but" insert –is--

Claim 12 line 4 delete "modified" insert –second--

Claim 12 line 5 delete "modified" insert –second--

Claim 12 line 5 after "but" insert –is--

Claim 12 line 5 delete "reference" insert –first--

Claim 12 line 5 after "both" insert –, first and second--

Claim 13 line 3 after "inputting the change" delete "orders" insert –order--

Claim 13 line 3 after "apply" delete "the"

Claim 14 line 2 after "instructions" insert –which when executed by a computer--

Claim 14 line 2 delete "for optimizing" insert –optimizes--

Claim 14 line 5 after "with the" delete "original" insert –reference--

Claim 19 line 4 after "second" delete "instance" insert –net--

Claim 22 line 3 after "top-net" delete "is"

Claim 23 line 3 after "layout is" insert –the--

Claim 24 line 3 after "netlist" delete "48"

Claim 24 line 4 after "by" delete ", " insert --:--

Claim 24 line 5 after "in the" insert --first and second--

Claim 24 line 7 after "netlist" delete "48"

Claim 24 line 7 after "comparing the" insert --second--

Claim 24 line 7 after "with the" insert --first--

Claim 25 line 3 after "generating an" insert --Engineering Change Order (--

Claim 25 line 3 after "ECO" insert --)--

Claim 25 line 4 delete "reference" insert --first--

Claim 25 line 4 after "but" insert --is--

Claim 25 line 4 delete "modified" insert --second--

Claim 25 line 5 delete "modified" insert --second--

Claim 25 line 5 after "but" insert --is--

Claim 25 line 5 delete "reference" insert --first--

Claim 25 line 5 after "both" insert --, first and second--

Claim 26 line 3 after "inputting the change" delete "orders" insert --order--

Claim 26 line 3 after "apply" delete "the"

To Drawings

The following changes to the drawings have been approved by the examiner and agreed upon by applicant: drawings 4B and 5B should be replaced according to attached PTO-948 form. In order to avoid abandonment of the application, applicant must make these above agreed upon drawing changes.

Allowable Subject Matter

7. Claims 1-26 are allowed.

8. The following is an examiner's statement of reasons for allowance: the prior art of record does not teach a method for optimizing a netlist change order flow including creating reference netlist and modified netlist according to changes to the reference netlist, wherein both netlists are hierarchical, comprising comparison the modified and reference netlists outside of the layout tool within **generating a first instance map** data structure and a **first net map** data structure corresponding to a **flat** view of the **reference** netlist and generating a **second instance map** data structure and a **second net map** data structure corresponding to a **flat** view of the **modified** netlist, wherein each of the first and second instance map data structures maintains a mapping of leaf-level instances names, and wherein each of the first and second net map data structure maintain a list of nets, including automatically generating at least one change order based on differences found between the first and second instance map data structures and between the first and second net map data structures and applying the change order to the design layout to generate a modified design layout as claimed.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Morgan (US Patent 6,530,073) discloses similar method to a method of instant Application for optimizing a netlist change order flow including creating reference netlist and modified netlist according to changes to the reference netlist comprising comparison the modified and reference netlists, including automatically generating at least one change order based on differences found between the first and second instance map data structures and between the first and second net

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map data structures and applying the change order to the design layout to generate a modified design layout, but lacks comparison the modified and reference netlists outside of the layout tool within **generating a first instance map** data structure and a **first net map** data structure corresponding to a **flat** view of the **reference** netlist and generating a **second instance map** data structure and a **second net map** data structure corresponding to a **flat** view of the **modified** netlist, wherein each of the first and second instance map data structures maintains a mapping of leaf-level instances names, and wherein each of the first and second net map data structure maintain a list of nets. Otaguro (US Patent 6,966,045) discloses a method for estimating wire loads including steps of changing design layout of the integrated circuit within Engineering Change Order (ECO), including comparison of original netlist with the modified netlist, but lacks comparison the modified and reference netlists outside of the layout tool within **generating a first instance map** data structure and a **first net map** data structure corresponding to a **flat** view of the **reference** netlist and generating a **second instance map** data structure and a **second net map** data structure corresponding to a **flat** view of the **modified** netlist, wherein each of the first and second instance map data structures maintains a mapping of leaf-level instances names, and wherein each of the first and second net map data structure maintain a list of nets. Weaver et al. (US Patent Application Publication 2004/0230933) discloses a circuit design flow process comprises using a mapped gate-level netlist including comparison of generated original netlist and modified netlist within Engineering Change Order (ECO), but lacks comparison the modified and reference netlists outside of the layout tool within

generating a first instance map data structure and a **first net map** data structure corresponding to a **flat** view of the **reference** netlist and generating a **second instance map** data structure and a **second net map** data structure corresponding to a **flat** view of the **modified** netlist, wherein each of the first and second instance map data structures maintains a mapping of leaf-level instances names, and wherein each of the first and second net map data structure maintain a list of nets.

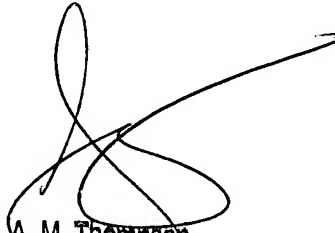
10. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen Rossoshek whose telephone number is 571-272-1905. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner Helen Rossoshek



A. M. Thompson
Primary Examiner
Technology Center 2800